

3.0 ALLOCATED WATER RIGHTS

This section provides an assessment of the degree of allocation of water in the WRIA 20 Watershed estimated from claims and administratively issued water rights (applications, permits and certificates). Ecology maintains a database to track and store water rights information, called the Water Rights Application Tracking System (WRATS) database (Ecology, 2003a). An abbreviated version of the WRATS database, called “**WRATS-On-a-Bun**,” or WOBS, that is current as of December 2003 is used for the assessment of allocation in the WRIA 20 Watershed. Information on applications for new water rights and change applications was also obtained (current as of June 2004) from Ecology (<http://www.ecy.wa.gov/programs/wr/rights/tracking-apps.html>) to assess the current degree of water rights activity in the watershed. Finally, instream flow regulations are reviewed.

3.1 Water Rights in Washington

3.1.1 State Administered Water Rights

Administrative water rights issued by Ecology or predecessor agencies have existed in Washington State since 1917 for surface water and 1945 for groundwater. These take the form of permits and certificates and are collectively referred to as administratively issued water rights. With exceptions made for some groundwater exemptions discussed below, legal water use since these dates requires application to and approval from Ecology. A groundwater right for the withdrawal of up to 5,000 gallons per day of groundwater for prescribed uses may be established without application to Ecology with a priority date of first beneficial use, and are referred to as “exempt wells.” Exempt well use is addressed in the section assessing actual use. Water rights are valid only as long as they are used, and except under specific conditions, cease to exist if they are not used for a continuous period of five years (i.e., they are relinquished and/or abandoned).

A water right claim is a possible water right based on the statement of a claimant that a beneficial use of water was established before the establishment of water code for surface water in 1917 (RCW 90.03), or before the regulation of public ground waters in 1945 (RCW 90.44). Water use before 1917 (for surface water) or 1945 (for groundwater) is “grandfathered” in and establishes a water right, subject to conditions (e.g., the water must be applied to beneficial use, must not have been relinquished, etc.). Such rights are referred to as claims, and must have been registered with Ecology. Since the establishment of the surface and groundwater codes, there have been four claim registration periods. Claims for water use may have been registered multiple times resulting in duplicate, triplicate, or possibly quadruplicate records in Ecology’s database for what is intended to be a single water right claim. Claims do not necessarily represent a valid water right. Their validity can only be determined through an adjudication, although Ecology may make a tentative determination as to their validity.

Approximately 177,000 claims were filed statewide in the initial opening to the water right claims registry (July 1, 1969 through June 30, 1974) in response to RCW 90.14.041. A list of the information that the claimant had to provide was specified in RCW 90.14.041. In 1973, RCW 90.14.041 was amended to allow a less extensive list of information – a “short form” filing. The short form only requires inclusion of sufficient data to identify the claimant, source of water, purpose of use and legal description of the land upon which the water is used and is of limited evidentiary value in adjudications. With the amendment to RCW 90.14.051 in 1973, there are long forms (exclusively used prior to 1973, and selectively used after 1973) and short forms.

The intent was that short forms were supposed to be used only by those who were withdrawing water pursuant to RCW 90.44.050 (exempt wells), but that is not what happened in practice. The language

in RCW 90.14.051 is as follows: "Except, however, that any claim for diversion or withdrawal of surface or groundwater for those uses described in the exemption from the permit requirements of RCW 90.44.050 may be filed on a short form to be provided by the department." This language is confusing because there is no exemption for the diversion of surface water under RCW 90.44.050.

The second opening was from July 1, 1979 through December 31, 1979, and was created by RCW 90.14.043.

That section of the code was amended in 1985 to allow a third opening was July 1, 1985 through September 1, 1985. In those cases the claimant first had to petition the Pollution Control Hearings Board for a certificate and make a showing to the PCHB regarding their water use. A certification was issued by the Pollution Control Hearings Board if, upon petition to the board, it was shown to the satisfaction of the board that:

- (a) Waters of the state have been applied to beneficial use continuously (with no period of nonuse exceeding five consecutive years) in the case of surface water beginning not later than June 7, 1917, and in the case of groundwater beginning not later than June 7, 1945; or,
- (b) Waters of the state have been applied to beneficial use continuously (with no period of nonuse exceeding five consecutive years) from the date of entry of a court decree confirming a water right and any failure to register a claim resulted from a reasonable misinterpretation of the requirements as they related to such court decreed rights.

If the claimant received a certificate from the Board, then Ecology accepted the filing of the claim and entered it into the claims registry.

The fourth opening from September 1, 1997 through June 30, 1998 was created by a new section of the code, RCW 90.14.068. These claims are commonly entered into the WOB database without designation as to whether they are long or short form claims.

Each of the openings came with limitations and differences from the other claim openings and most of that information can only be gleaned by reading the various laws that created/limited the openings. For example, filings in the September 1, 1997 through June 30, 1998, opening have a water right priority date of as of the date the statement of claim is filed with Ecology – even though to be a valid claim the water use needed to start prior to 1917 for surface water and 1945 for groundwater.

An adjudication must be conducted to determine the validity of claims, and to resolve conflicts between water rights holders. An adjudication is a court process that may be initiated by petition by a person claiming a right to water, by Ecology, or by planning units. There have been no adjudications in the WRIA 20 Watershed.

When applications are made to Ecology for a new water right, Ecology (or their predecessor agencies) is required to consult with the Washington Department of Fish and Wildlife (WDFW, or their predecessor agencies, such as the Department of Game and Fish). If WDFW replies with a letter recommending to deny or limit the exercise of a water right for the protection of aquatic habitat under the authority of the Fisheries Code (RCW 75.20), such letters are called Surface Water Source Limitation (SWSL) letters and effectively establish a regulatory minimum instream flow with an associated priority date.

Water rights may also be established for instream flow values under the Water Resources Act of 1971 (WAC 173-500). Regulated instream flow quantity is a water right with a corresponding priority date and period of use. The purpose of establishing such flows is typically for the maintenance and/or protection of aquatic biota/fish, although other values may also be considered, such as water quality and recreational uses. Water may also be reserved or set aside for future use. Ecology must initiate a review of such regulations whenever new information, changing conditions, or statutory modifications make it necessary. No instream flows or closures have been set in the Sol Duc-Hoh Watershed.

Other than tribal water rights, no other forms of water rights are addressed in this section (e.g., other federally reserved water rights).

3.1.2 Tribal Water Rights

There are three tribes within WRIA 20, the Hoh, Makah, and Quileute Tribes. There are four Tribal reservations, however the Ozette Reservation is under treaty jurisdiction of the Makah Tribe and is currently managed as wilderness. Land within WRIA 20 is included within land ceded by the Treaty of Neah Bay (1855), and the Treaty of Olympia (1856). Tribal water rights are a type of federal reserved water right. These rights are reserved whenever the United States sets aside land for some federal purpose, including an Indian reservation. These rights are outside the state system and cannot be adjudicated in state court without the tribe's consent, unless there is a general water rights adjudication involving every water right holder.

Tribes generally have two types of water rights. The first is a right to water to meet the primary purposes of the reservation and has been broadly interpreted by the courts. The protection for water on reservations is first cited in *Winters v. U.S.*, a U.S. Supreme Court case [*Winters v. United States*, 207 U.S. 564, 565 (1908)]. In 1984 the 9th Circuit Court of Appeals finalized its 1981 decision after rehearing *U.S. v. Adair* (723 F.2d 1394 (9th Cir. 1983)). That court cited the Winters Doctrine (that creation of a reservation also implied continued supply of necessary waters to it) and also, described aboriginal water rights of tribes since time immemorial to the treaty area, including off-reservation water rights within the lands known as the Usual and Accustomed Area, for each applicable treaty. This right has a priority date of treaty signing and is not subject to continuous beneficial use provisions or a particular withdrawal point.

The second type of right is off-reservation and is for water for instream flows to protect fish and fish habitat. The right to fish was defined in treaties and reaffirmed in the Boldt decisions [*U.S. v. Washington* 1974, 384 F. Supp. 312 (W.D. Wash. 1974), *aff'd*, 520 F.2d 676 (9th Cir. 1975)]. Implicit in that fish right is a right to sufficient water in the streams to sustain a productive fishery. The priority date of this water right falls either at "time immemorial" or the date of the Treaty signing, depending on the court involved.

The Tribal right to instream flow to protect fish and fish habitat is independent of the state system of establishing minimum instream flows. The Tribal right generally predates any other water right, while the state minimum instream flow has a priority date based on the time the State law was codified. These State rights are junior to many other water rights.

3.2 **Assessment of Water Allocation**

This section describes water rights allocated by Ecology in the WRIA 20 Watershed and by sub-basin. The characterization of water rights was based on:

- Source type (groundwater or surface water);
- Document type (certificate, permit, claim, etc.);
- Purpose of use (irrigation, domestic, municipal, etc.); and,
- Sub-basin.

The WOB database was initially queried to exclude those documents listed in the database as inactive. The extracted data were placed in a new database for further analysis. A total of approximately 560 records were extracted from the WOB database for WRIA 20, and are summarized in the following table:

Document Type	Number of Documents	
	Groundwater	Surface Water
Applications	3	18
Certificates	38	135
Claims (last registration period)	1	8
Long Form Claims	115	77
Short Form Claims	84	71
Permits	1	5
Subtotal	242	314
Total	556	

Information from WOB database (Ecology, 2003a).

Also included in the database are two reservoir certificates and one short form claim with a “B” number, indicating uncertainty in the source (i.e. groundwater or surface water).

3.2.1 Characterization by Purpose of Use

For each sub-basin, the database was queried to extract the distribution of documents by purpose of use for both groundwater and surface water. The order of extraction was as follows:

- All documents including the “MU” (municipal) purpose of use;
- Remaining documents including the “CI” (commercial-industrial) purpose of use;
- Remaining documents including the “IR” (irrigation) purpose of use;
- Remaining documents including the “D*” (domestic) purpose of use;

- Remaining documents with non-consumptive or infrequently used purposes of use (power, fish propagation, and fire); and,
- All other documents including all other purposes of use (mining, recreation, stock, etc).

After each query, the records are removed from the database before applying the next query. This characterization is based solely on the number of records. The results of the analysis by purpose of use are summarized on Table 3-1. The approach for an assessment of allocation based on the volume of water is presented in the next section.

Non-consumptive (e.g., fish hatchery or hydropower production) or infrequently used (e.g., fire suppression) water rights contributed less than one percent of all documents. Because annual quantities are usually not listed in the WOB database for these types of water rights, they are not further characterized with respect to associated annual quantities following initial extraction from the database. The surface water diversions for non-consumptive or infrequently used purposes of use are summarized as follows:

- Two certificates totaling 0.23 cubic foot per second (cfs) for fire protection;
- Ten certificates totaling 135.11 cfs for fish propagation;
- One permit for 3 cfs for fish propagation; and
- One reservoir certificate for 20.2 acre-feet (AF) for propagation..

3.2.2 Assignment of Annual Withdrawals or Diversions

Water rights are assigned with a variety of properties among which are an instantaneous withdrawal/diversion rate (Q_i ; in gallons per minute [gpm] for groundwater and cubic feet per second [cfs] for surface water), and an annual withdrawal/diversion rate (Q_a ; acre-feet per year for both surface and groundwater). (Groundwater is typically described with the term “withdrawal” while surface water is generally described with the term “diversion.” The terms withdrawal and diversion may be used interchangeably in this report.) Assessment of allocation on a watershed scale is appropriately considered by examination of the annual permitted quantities, which may then be seasonally distributed.

The WOB database includes instantaneous withdrawal rates (Q_i) for almost all administratively issued rights (permits and certificates). However, annual withdrawal rates (Q_a) are missing for many administratively issued rights and almost all claims. Surface water permits and certificates generally have a higher percentage of records with missing annual withdrawal rates than groundwater permits and certificates. For records that do not include annual withdrawal rates (Q_a), the Q_a is assigned to allow an assessment of allocation. The method of estimating assigned Q_a is described below.

3.2.2.1 *Certificates and Permits*

Within each group of purpose of use, the ratio of Q_i/Q_a of water rights was calculated for both surface water and groundwater for rights for which both parameters are defined (Table 3-2). The mean and median Q_i/Q_a was calculated for each purpose of use. For certificates and permits for non-irrigation use without Q_a , the Q_a was estimated by multiplying the Q_i by the median Q_i/Q_a ratio. The median Q_i/Q_a is considered most representative, as outliers in the Q_i/Q_a ratio do not skew it. For

surface water certificates and permits for the “other” purpose of use, there was only one certificate with Qi and Qa defined. Therefore, for those certificates and permits without Qa, the Qa was calculated using the median Qi/Qa from groundwater certificates and permits for the “other” purpose of use.

For irrigation rights without Qa, the Qa was calculated by multiplying the irrigated acreage for each right by the median duty for either surface water or groundwater (Table 3-2). The median duty for irrigation rights was calculated to be 2.0 ft/yr per acre for surface water and 1.8 ft/yr per acre for groundwater (Table 3-2). Typical irrigation duties in other parts of the state are on the order of 4 ft/yr per acre in eastern Washington, and 2 ft/yr per acre in Puget Sound. Therefore an irrigation duty of 2.0 ft/yr per acre was used for WRIA 20.

3.2.2.2 Assignment of Qa to Claims

Long and short form claims generally do not contain complete information on Qa, Qi, or irrigated acres, and therefore require an assignment of Qa. New claims filed during the last claim registration period (September 1, 1997 through June 30, 1998) have Qa and Qi information.

Short form claims are generally equivalent to exempt wells as defined in RCW 90.44.050, such as for domestic water use and limited irrigation (i.e., less than 0.5 acre). Short form claims were assigned a Qa of 0.5 AF/yr, regardless of purpose of use, consistent with domestic, stock, and limited irrigation use. Long form claims with a domestic purpose of use were also assigned a Qa of 0.5 AF/yr.

For long form claims with irrigated acreage information, the duty calculated from water rights was applied to obtain a value for Qa.

Long form claims for irrigation use without a defined number of irrigated acres were assigned a Qa based on the median number of irrigated acres for groundwater or surface water rights, and a corresponding duty calculated from water rights.

For the remaining long form claims, the purpose of use is stock, or no purpose of use is listed. A Qa of 2 AF/yr was assigned to all of these remaining long form claims.

3.3 Allocation by Sub-Basin

The WOB database lists the location of water rights and claims by Township, Range, and Section (TRS). Sections and associated water rights and claims were assigned to sub-basins based on the sub-basin in which the centroid of the section was located. If the centroid of a particular section fell within the defined sub-basin boundary, all water rights in that section were included in that sub-basin regardless of whether portions of that section were located in other sub-basins. It is therefore possible that some water rights that were located within a particular sub-basin were assigned into a different sub-basin as the centroid of that section was in the different sub-basin.

A number of water rights and claims have a place of use that covers multiple sections. For these documents, the Qa was allocated between sections by dividing the total Qa by the number of sections and distributed accordingly.

3.4 Results

A total of 3,413 AF/yr (equivalent to 4.7 cfs) is estimated to be allocated and claimed in WRIA 20. The allocation of water in WRIA 20 is summarized by source (groundwater or surface water), purpose of use, and document type in Table 3-3.

Surface water accounts for 1,377 AF/yr, or 40% of the total estimated claimed and allocation water. Surface water certificates and permits account for 773 AF/yr, or 56% of the total estimated claimed and allocated surface water (Figure 3-1). Claims make up 606 AF/yr of estimated claimed and allocated surface water, or 44% of the estimated claimed and allocated surface water (Figure 3-2). Groundwater accounts for 2,042 AF/yr, or 60% of the total estimated claimed and allocated water rights. Groundwater certificates and permits account for 1,498 AF/yr, or 70% of the estimated claimed and allocated groundwater (Figure 3-3). Claims account for 613 AF/yr, or about 30%, of the total estimated claimed and allocated groundwater (Figure 3-4).

The largest allocation of water in WRIA 20 is for municipal use, accounting for 35% of the total claimed and allocated water, all of it from groundwater (1,182 AF/yr). Of the 1,182 AF/yr of water allocated for municipal use in WRIA 20, 950 AF/yr is groundwater for the City of Forks. The City of Forks also has supplemental certificates for 968 AF/yr. The remaining 232 AF/yr of groundwater allocated for municipal use is for the Quileute Tribe. Domestic use is divided almost equally between groundwater and surface water. The distribution of surface water claimed and allocated for domestic use is shown on Figure 3-5. The distribution of groundwater claimed and allocated for municipal and domestic use is shown on Figure 3-6.

Irrigation use is the next largest volume of claimed and allocated water in WRIA 20. About 60% of the irrigation allocation is from surface water. The distribution of surface water claimed and allocated for irrigation is shown on Figure 3-7. The remaining 40% of water allocated for irrigation is from groundwater. The distribution of groundwater claimed and allocated for irrigation use is shown on Figure 3-8. Other uses of water account for 5 AF/yr, or less than one percent of the total claimed and allocated water in the watershed.

The Sol Duc and Bogachiel sub-basins have the largest amount of claimed and allocated water in WRIA 20, each with approximately 40% of the total claimed and allocated water (Tables 3-4 and 3-5). The Calawah and Hoh sub-basins each have approximately 5% of the claimed and allocated water. Most of the water withdrawals and diversions are in the vicinity of the Highway 101. Most of the water withdrawals and diversions in the Bogachiel sub-basin are in the vicinity of the Town of Forks. Together, the Sol Duc, Bogachiel, Hoh, and Calawah basins account for about 3,279 AF/yr, or about 96% of the water allocated in WRIA 20.

Pacific sub-basins 2, 3, 4 and 5 do not have any water rights or claims.

There are 21 pending applications in WRIA 20, including 20 applications for new water rights and one change application (Figure 3-9). There are three applications requesting a total of 357 gpm of groundwater for domestic use. There are also 17 applications requesting a total of 1,008.36 cfs of surface water, including one application for 1,000 cfs for power generation and 7 cfs for fish propagation.

3.5 Administrative Status of Instream Flows

Minimum Instream Flows or closures for the WRIA 20 Watershed have not been set at this time. Ecology provided a list of Surface Water Source Limitation (SWSL) letters associated with water right applications. The SWSLs are summarized in the following table:

Water Body	Priority Date	Recommendation
Beaver Creek (tributary to Sol Duc River)	December 9, 1992	Recommended denial of application for 0.6 cfs, recommended no diversions when flow < 215 cfs October-June or flow <145 cfs July-September
Bogachiel River (tributary to Quillayute River)	September 12, 1991	Denial of application, concerns for Coho salmon
Lake Pleasant (tributary to Sol Duc River)	March 31, 1993	Denial of application, concerns for Coho salmon
Sol Duc River (tributary to Quillayute River)	February 27, 1992	Denial of application, concerns for Coho salmon
Sol Duc River (tributary to Quillayute River)	May 5, 1989	Recommended low flow provisions of 250 cfs October-June and 145 cfs July-September measured at Snider Creek Sanger Station Gage
Snider Creek (tributary to Sol Duc River)	January 11, 1993	Recommended low flow provisions of 215 cfs October-June and 145 cfs July-September measured at Snyder Creek Sanger Station Gage (Sol Duc River)

3.6 Discussion and Recommendations

The following are observations concerning water allocation in WRIA 20:

- Claimed and allocated water accounts for an annual average of about 4.7 cfs of water. This is a small portion of the total water budget of WRIA 20. Although claimed and allocated water represents a small portion of the WRIA 20 water budget, most of the claims and allocations occur in limited areas along rivers such as the Sol Duc River and major transportation corridors such as Highway 101. Therefore, claimed and allocated water can be a larger portion of a sub-basin water budget.
- Claims account for approximately 64% of the documents in the WOB database for WRIA 20. However, the volume of claimed water accounts for approximately 36% of the total claimed and allocated water in WRIA 20. Certificates and permits account for about 32% of the documents in the WOB database, but account for about 64% of the claimed and allocated water.
- Municipal and domestic use accounts for about 48% of the claimed and allocated water in WRIA 20. All water allocated for municipal use is from groundwater. Water allocated for domestic use is from both groundwater and surface water.
- There is little crop irrigation in WRIA 20. However, this assessment of water allocation indicates that water rights and claims specified to have an “irrigation” purpose of use account for about 42% of the claimed and allocated water in WRIA 20. Certificates and permits account for about 25% of the water claimed and allocated for irrigation use. Many of the water right and claim documents that were included in the “irrigation”

purpose of use in this assessment also include purposes of use such as domestic supply or stock watering in addition to irrigation. Therefore, some of the water claimed or allocated for irrigation in this analysis is likely used for other purposes.

The following are recommendations concerning water rights in WRIA 20:

- Although minimum instream flows have not been set in WRIA 20, the Washington Department of Fish and Wildlife has recommended denial of water rights, low flow provisions, or no diversion when streamflow rates drop below certain levels for several surface water right applications in WRIA 20. Instream flows and sub-basin water balances should be evaluated, and minimum instream flows adopted, to guide future water right decision making in the basin.
- Better understand the actual uses associated with rights and claims that have a “irrigation” purpose of use and a “domestic” purpose of use associated with the right or claim.